

Remarks

Claims 1, 3-6, 8, 10-12, 14-18, 20, 22 and 23 are pending in the application. The Examiner indicates that claim 15 is rejected. Applicants respectfully note that claim 15 is cancelled and, thus, the rejection is improper.

Claims 1, 3, 14, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (2002/0194385 A1, hereinafter Linder) in view of Yadav et al. (US 6,879,587 B1, hereinafter Yadav).

Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Yadav and further in view of Michaelis et al. (US 2004/0009751 A1, hereinafter Michaelis).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Yadav and further in view of Stockhusen (US 7,181,237 B2, hereinafter Stockhusen).

Claims 5, 6, 18, 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Michaelis.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Michaelis and further in view of Ayyagari et al. (US2002/0176366).

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in

the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewritten to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

Rejection Under 35 U.S.C. 103(a)

Claims 1, 3, 14, 16 and 22

Claims 1, 3, 14, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Yadav. The rejection is traversed.

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the

reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in KSR Int'l Co. v. Teleflex, Inc., 126 S. Ct. 2965 (2006); see also MPEP §2141.

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Linder and Yadav fails to teach or suggest all the claim elements of Applicants' claim 1.

Linder discloses a method for mobile IP nodes in heterogeneous networks. As admitted by the Examiner, however, Linder, fails to teach or suggest Applicants' limitations of "wherein the switching is hidden from the network layer using a virtual interface, the virtual interface presenting the appearance of *always being an active interface* to the network layer regardless of which of the network interfaces is being used at a given time," as claimed in Applicants' claim 1.

Furthermore, Yadav fails to bridge the substantial gap between Linder and Applicants' claim 1.

Yadav discloses a distributed router architecture in which packet forwarding functions are separated from control functions. As disclosed in Yadav, the distributed router architecture includes a controller for processing control packets and packet switches for handling forwarding of control packets, where the controller and the packet switches are distributed across a network such as a packet network. As further disclosed in Yadav, the distributed packet switches are hidden from networking applications in the controller. (Yadav, Abstract and Col. 1, Lines 38 – 50).

Yadav, however, fails to teach or suggest at least the limitation of "wherein the switching is hidden from the network layer using a virtual interface, the virtual interface presenting the appearance of *always being an active interface* to the network layer regardless of which of the network interfaces is being used at a given time," as claimed in Applicants' claim 1.

First, Yadav fails to teach or suggest the limitation of "wherein the switching is hidden from the network layer using a virtual interface," as claimed in Applicants' claim

1. Yadav is devoid of any teaching or suggestion of a virtual interface for hiding switching between network interfaces from a network layer. Rather, Yadav merely discloses hiding the distributed nature of a router architecture from a controller of the distributed router architecture. As disclosed in Yadav, a pseudo device driver in the controller is used to hide the distributed nature of the router, i.e., to hide the distributed packet switches from networking applications 502 of controller 500. More specifically, Yadav discloses that pseudo device driver 512 in controller 500 includes virtual interfaces Av, Bv, Cv, Dv, and Ev which correspond to physical interfaces A, B, C, D, and E of switches 100 and 200, respectively, thereby hiding the physical interfaces A, B, C, D, and E of switches 100 and 200 from networking applications 502 of controller 500. Yadav, however, does not teach or suggest that the pseudo device driver 512 hides switching between use of interfaces A, B, C, D, and E of switches 100 and 200 from networking applications 502 of controller 500. Yadav is devoid of any teaching or suggestion of switching between physical interfaces A, B, C, D, and E of switches 100 and 200; rather, the router uses different ones of the interfaces for different packets depending on the source/destination of packets being routed through the router.

Second, Yadav fails to teach or suggest the limitation of “the virtual interface presenting the appearance of always being an active interface to the network layer regardless of which of the network interfaces is being used at a given time,” as claimed in Applicants’ claim 1.

Rather, Yadav merely discloses that the distributed nature of the router is hidden from networking applications. Yadav is devoid of any teaching or suggestion that a virtual interface presents an appearance of always being active to the network applications of the controller regardless of which of the network interfaces of the distributed packet switches is being used at a given time.

As disclosed in Yadav, a pseudo device driver in the controller is used to hide the distributed nature of the router, i.e., to hide the distributed packet switches from the controller. More specifically, Yadav discloses that pseudo device driver 512 in controller 500 is used to hide distributed packet switches 100 and 200 from controller 500. The pseudo device driver 512 includes virtual interfaces Av, Bv, Cv, Dv, and Ev which correspond to physical interfaces A, B, C, D, and E of switches 100 and 200,

respectively. The pseudo device driver 512 causes control packets to be delivered to the networking stack of the controller 500 as if the control packets are coming from virtual interfaces Av, Bv, Cv, Dv, or Ev in pseudo device driver 512. Similarly, the pseudo device driver 512 causes enables control packets transmitted from the network stack of controller 500 to be delivered to the switches 100 and 200 such that the distributed nature of the switches 100 and 200 is hidden. (Yadav, Col. 1, Line 62 – Col. 3, Line 16). In other words, Yadav merely discloses that pseudo device driver 512 hides the distributed nature of interfaces A, B, C, D, and E from the networking applications. Yadav is devoid of any teaching or suggestion that the pseudo device driver 512 presents an appearance of always being active to networking applications 502 of controller 500 regardless of which of the interfaces A, B, C, D, or E is being used.

As further disclosed in Yadav, a virtual interface protocol (VIP) is used for receiving and sending packets, such that the distributed nature of the router architecture is hidden from the controller. The VIP is an IP encapsulation protocol that is implemented using a VIP module 508 located in controller 500 and VIP modules 104 and 204 located in switches 100 and 200, respectively. (Yadav, Col. 2, Lines 17 – 24). As disclosed in Yadav, the VIP modules merely append/remove external IP headers to/from packets for routing packets between controller 500 and switches 100 and 200. (Yadav, Col. 2, Line 51 – Col. 3, Line 14).). In other words, Yadav merely discloses that VIP modules facilitate hiding of the distributed nature of interfaces A, B, C, D, and E from the networking applications. Yadav is devoid of any teaching or suggestion that any of the VIP modules present an appearance of always being active to networking applications 502 of the controller 500 regardless of which of the interfaces A, B, C, D, or E is being used.

Thus, Yadav fails to teach or suggest at least the limitations of “wherein the switching is hidden from the network layer using a virtual interface, the virtual interface presenting the appearance of always being an active interface to the network layer regardless of which of the network interfaces is being used at a given time,” as claimed in Applicants’ claim 1.

As such, Applicants’ claim 1 is patentable over Linder in view of Yadav under 35 U.S.C. 103(a). Similarly, independent claims 14 and 22 recite relevant limitations similar

to those recited in independent claim 1. Therefore, for at least the same reasons discussed above, independent claims 14 and 22 also are patentable over Linder in view of Yadav under 35 U.S.C. 103(a). Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Linder in view of Yadav.

Therefore, the rejection should be withdrawn.

Claims 5, 6, 18, 20 and 23

Claims 5, 6, 18, 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Michaelis. The rejection is traversed.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2141. Establishing a *prima facie* case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in *KSR Int'l Co. v. Teleflex, Inc.*, 126 S. Ct. 2965 (2006); see also MPEP §2141.

The Office Action failed to establish a *prima facie* case of obviousness because the combination of Linder and Michaelis fails to teach or suggest all the claim elements of Applicants' claim 5.

Linder discloses a method for mobile IP nodes in heterogeneous networks. As admitted by the Examiner, however, Linder, fails to teach or suggest the limitation of “determining a plurality of characteristics of each of the network interfaces,” as claimed in Applicants’ claim 5. Thus, Linder also must fail to teach or suggest the limitation of “wherein the characteristics for each network interface include a signal strength value for the network interface and a user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces,” as claimed in Applicants’ claim 5.

Furthermore, Michaelis fails to bridge the substantial gap between Linder and Applicants’ claim 5.

Michaelis discloses techniques for selection of wireless network interfaces by assigning priorities to the wireless network interfaces and selecting wireless network interfaces using the assigned priorities and a set of network interface selection rules. Michaelis further discloses that the priorities may be assigned to the wireless network interfaces using parameters such as latency, bandwidth, signal strength, quality of service, and bearer requirements.

Michaelis, however, fails to teach or suggest at least the limitation of “wherein the characteristics for each network interface include a signal strength value for the network interface and a user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces,” as claimed in Applicants’ claim 5. Michaelis is devoid of any teaching or suggestion of a user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces.

In the Office Action, the Examiner cites specific portions of Michaelis (namely, Para. 0004 – 0005), asserting that the cited portions of Michaelis disclose a user priority value. The cited portions of Michaelis, however, merely describe other parameters which may be used to assign priorities to network interfaces, dynamic adjustment of priorities assigned to network interfaces, and prioritization of the network interfaces based on assigned priorities. Specifically, the cited portions of Michaelis state:

“[0004] This disclosure is directed to techniques for selection of wireless network interfaces for data communication within a wireless communication network. The techniques may rely on a set of interface

selection rules to identify wireless network interfaces that are qualified to serve packets associated with a particular communication application. A wireless network interface may be qualified in the sense that it satisfies all of the interface selection rules for a given packet. Each wireless network interface may be assigned an explicit priority, permitting the interfaces to be prioritized in terms of relative cost, latency, bandwidth, signal strength, quality of service (QoS), bearer requirements, or the like. Thus, interface priority may be explicitly identified, rather than inferred from the order in which the interface selection rules are applied.

[0005] Upon identifying one or more qualified interfaces for a given packet, e.g., interfaces that satisfy all of the interface selection rules, the techniques may involve selection of the qualified interface having the highest priority. The assigned priorities may be dynamically adjusted, however, based on the connection states of the wireless network interfaces. Dynamic prioritization permits consideration of changes in interface properties such as cost and latency when connection state changes. In this manner, a first interface may have a higher priority than a second interface when both interfaces are connected to respective access points, but a lower priority when the second interface is connected and the first interface is not. Thus, the priority assigned to a given interface may be dynamically adjusted to reflect current interface state, e.g., on a packet-by-packet basis. In addition, explicit prioritization may promote processing efficiency in selecting the appropriate interface.”

[Michaelis, Para. 0004, 0005]

Applicants note that the cited portions of Michaelis are devoid of any teaching or suggestion of any user priority value. Applicants respectfully request that the Examiner point out exactly where in the cited portions of Michaelis there is any teaching or suggestion of a user priority value. The cited portions of Michaelis are devoid of any teaching or suggestion of any user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces, as claimed in Applicants’ claim 5.

Thus, Michaelis fails to teach or suggest at least the limitation of “wherein the characteristics for each network interface include a signal strength value for the network interface and a user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces,” as claimed in Applicants’ claim 5.

Furthermore, since Michaelis is devoid of any teaching or suggestion of a user priority value indicative of a preference of a user of the mobile node for the network interface relative to other network interfaces, Michaelis also must fail to teach or suggest the limitation of “wherein a weight applied to the user priority value for each network interface depends on the respective signal strength for the network interface,” as claimed in Applicants’ claim 5.

As such, Applicants’ claim 5 is patentable over Linder in view of Michaelis under 35 U.S.C. 103(a). Similarly, independent claims 18 and 23 recite relevant limitations similar to those recited in independent claim 5. Therefore, for at least the same reasons discussed above, independent claims 18 and 23 also are patentable over Linder in view of Michaelis under 35 U.S.C. 103(a). Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Linder in view of Michaelis.

Therefore, the rejection should be withdrawn.

Claims 4, 10, 11, 12 and 17

Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Yadav and further in view of Michaelis. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Yadav and further in view of Stockhusen. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder in view of Michaelis and further in view of Ayyagari. The rejections are traversed.

Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection under 35 U.S.C. 103 given Linder in view of Yadav or Linder in view of Michaelis. Since the rejections under 35 U.S.C. 103 given Linder in view of Yadav and Linder in view of Michaelis have been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Linder in view of Yadav and Linder in view of Michaelis to render the independent claims obvious, these grounds of rejection cannot be maintained..

Therefore, the rejections should be withdrawn.

Allowable Subject Matter

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants thank the Examiner for indicating allowability with respect to claim 8. For reasons set forth above, Applicants submit that independent base claim 5 is allowable over the cited references. Thus, dependent claim 8 is also allowable.

Therefore, the objection should be withdrawn.

Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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